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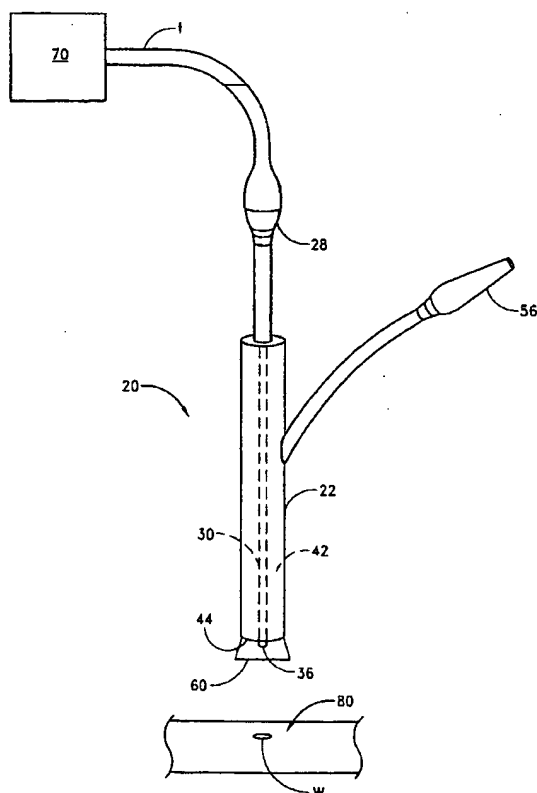
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[Continued on next page]

(54) Title: **PATCH AND GLUE DELIVERY SYSTEM FOR CLOSING TISSUE OPENINGS DURING SURGERY**



(57) Abstract: A patch applicator has an elongate body with an inner lumen and an outer lumen arranged concentrically. First and second connectors are provided and correspond to the inner and outer lumens, respectively. A patch is also provided. In operation, a source of vacuum is connected to the first connector and draws a vacuum through the inner lumen. The inner lumen is then applied to a patch to releasably hold the patch. The patch is advanced within the patient until it is placed on top of and over a wound in tissue. The source of vacuum is then transferred to the second connector and pulls a vacuum through the outer lumen to clear bodily fluid from a field around the wound. After the field is cleared, the source of vacuum is removed and replaced by a source of flowable adhesive. Adhesive is injected through the outer lumen onto the patch and tissue surrounding the patch. The patch applicator holds the patch in place, allowing the adhesive to set. A release rod is advanced through the first connector and through the inner lumen into contact with the patch. The applicator is then removed from the patch, followed by the release rod. Thus, an adhesive patch is attached to close an opening in tissue.

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document, with indication, where appropriate, of the relevant passages          | Relevant to claim No. |
|----------|---|-----------------------|
| X        | US 5 843 124 A (HAMMERSLAG JULIUS G)<br>1 December 1998 (1998-12-01)<br>the whole document  | 1-16                  |
| X        | WO 00 02488 A (BARAK SHLOMO)<br>20 January 2000 (2000-01-20)<br>abstract; figures 4-10      | 1-16                  |
| X        | EP 0 745 350 A (SASAKI HIROSHI)<br>4 December 1996 (1996-12-04)<br>the whole document       | 1-16                  |
| A        | US 5 236 455 A (WILK PETER J ET AL)<br>17 August 1993 (1993-08-17)<br>abstract; figures 1,4 | 1-16                  |
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages                  | Relevant to claim No. |
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| A          | WO 99 62405 A (UNIV LOMA LINDA MED)<br>9 December 1999 (1999-12-09)<br>abstract; figure 30<br>----- | 1-16                  |

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Information on patent family members

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| Patent document<br>cited in search report |   | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
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